

REMARKS

This amendment accompanies a request for continued examination (RCE).

Claims 1-19 are pending for examination.

Applicant requests that the Examiner address the following issues regarding the Notice of References Cited and the certified copies of the priority document(s). These issues were raised in applicant's prior response, but were not addressed by the Office action of January 22, 2010:

Notice of References Cited

Listed reference N in the Notice of References Cited is EP555886 (Kuwata) that accompanied the Office action of July 24, 2009. The country associated with this reference appears to be incorrectly listed on the Notice of References Cited. In particular, it appears the country should be listed as Europe (not Japan). Applicant respectfully requests that a corrected Notice of References Cited be provided to applicant.

Copies of priority document(s)

Paragraph 12a) of the July 24, 2009 Office Action Summary indicates that "some" of the certified copies of the foreign priority documents. The undersigned attorney notes that the PTO's PAIR system includes an entry on February 19, 2009 that indicates a certified copy of JP 2005-015395 has been received by the USPTO. Therefore, it appears that the USPTO has received certified copies of all priority documents. If that is incorrect, the Examiner is requested to let the undersigned attorney know specifically what documents appear to be missing.

Objections

Claim 5 is amended to address an objection raised by the Examiner. In particular, as suggested by the Examiner, the word "on" is changed to "of."

Also, claims 13-17 are amended by deleting the unnecessary repetition of the phrase "according to claim."

Rejections under 35 U.S.C. 112, par. 2

Claims 1 and 10 are amended to clarify the subject matter as required by the Examiner. In view of the amendments, the rejections under section 112, par. 2 should be withdrawn.

Rejections under 35 U.S.C. 102-103

In the Office action, the claims were rejected as follows:

- (1) Claim 1 was rejected under 35 U.S.C. 102 as anticipated by U.S. Patent No. 4,364,072 (Nishizawa).
- (2) Claim 10 was rejected 35 U.S.C. 102 as anticipated by U.S. Patent No. 4,873,564 (Beasom).
- (3) Claims 1-8 were rejected under 35 U.S.C. 103 as obvious from U.S. Patent No. 6,841,812 (Zhao) in view of Nishizawa.
- (4) Claim 9 is rejected as obvious from Zhao in view of Nishizawa and further in view of U.S. Patent No. 6,555,850 (Sakamoto).
- (5) Claims 10-12 and 15-16 are rejected as obvious from Zhao in view of Beasom.
- (6) Claims 13-14 are rejected as obvious from Zhao in view of Beasom and further in view of Nishizawa.
- (7) Claim 17 is rejected as obvious from Zhao in view of Beasom and further in view of Sakamoto.

In view of the foregoing amendments and following remarks, reconsideration is respectfully requested.

The rejections of claims 1-9 should be withdrawn

Independent claim 1 is amended to clarify that the second conductivity type doped region extends into the first conductivity type semiconductor layer to a top surface of the buffer layer,

but does not extend through the buffer layer. An example is illustrated in FIG. 1 of the pending application which shows that the second conductivity type doped regions 4a, 4b extend into the first conductivity type semiconductor layer 1 to the top surface of the buffer layer 3. The regions 4a, 4b do not, however, extend through the buffer layer 3. The claimed feature(s) can provide various advantages such as those discussed in the specification at page 11, line 13 – page 12, line 17 and at page 14, line 5 – page 15, line 9.

Nishizawa does not disclose the foregoing claimed feature. For example, FIG. 10B, shows gate p⁺ regions 14 (which allegedly correspond to the claimed “second conductivity doped region”) that extend entirely through the n⁻ region 19. At least for this reason, Nishizawa does not anticipate claim 1.

Nor would the subject matter of claim 1 or dependent claims 2-8 and 18 have been obvious from the combination of Zhao and Nishizawa. Even if a person of ordinary skill would have had some reason to incorporate Nishizawa's n⁻ region 19 into Zhao's device, at most that would have resulted in a device in which Zhao's p⁺ sub-regions 60 (which allegedly correspond to the claimed “second conductivity type doped region”) extend *entirely through* the added “buffer” layer (just as Nishizawa's p⁺ regions 14 extend *entirely through* the n⁻ region 19). There would have been no reason to modify Zhao in view of Nishizawa to obtain the claimed subject matter.

At least for this reason, the rejections if dependent claims 2-8 should be withdrawn.

Sakamoto also fails to disclose the features of claim missing from the alleged combination of Zhao and Nishizawa. Therefore, the rejection of claim 9 should be withdrawn as well.

The rejections of claims 10-17 should be withdrawn

Beasom discloses a FET device. The Office action alleges that P⁻ region 24 in FIGS. 3 and 4 corresponds to the claimed “buffer layer,” and that P⁺ region 25 corresponds to the claimed “second conductivity type doped region.”

Claim 10 is amended, like 1, to clarify that the second conductivity type doped region extends into the first conductivity type semiconductor layer to a top surface of the buffer layer, but does not extend through the buffer layer. Claim 10 is further amended (as is claim 1) to

clarify that the first conductivity type semiconductor layer and the buffer layer have a substantially flat cross-sectional shape. An example is illustrated in FIG. 1, which shows a first conductivity type semiconductor layer 1 and a buffer layer 3 having a substantially flat cross-sectional shape. This can provide an improvement because the thickness of the buffer layer and the impurity concentration can be set at desired values through epitaxial growth of the buffer layer. Furthermore, with the claimed arrangement, various layers, including the buffer layer, can be formed by a continuous process such that the overall processing time required can be reduced. This, in turn, can help reduce fabrication costs.

In contrast to the substantially flat cross-sectional shape recited in claim 10, Beasom discloses that the P- region 24 is U-shaped. Therefore, the P- region 24 does not correspond to the claimed "buffer layer." At least for this reason, Beasom does not anticipate claim 10.

Furthermore, even if the disclosure of Zhao were somehow modified in view of Beasom's P- region 24, at most that would result in an arrangement with a U-shaped buffer. It would not render obvious the claimed subject matter, including a buffer layer having a substantially flat cross-sectional shape.

Sakamoto also does disclose or render obvious the foregoing feature. At least for these reasons, the rejections of claims 10-17 should be withdrawn.

Conclusion

It is believed that all of the pending claims have been addressed. However, the absence of a reply to a specific rejection, issue or comment does not signify agreement with or concession of that rejection, issue or comment. In addition, because the arguments made above may not be exhaustive, there may be reasons for patentability of any or all pending claims (or other claims) that have not been expressed. Finally, nothing in this paper should be construed as an intent to concede any issue with regard to any claim, except as specifically stated in this paper, and the amendment of any claim does not necessarily signify concession of unpatentability of the claim prior to its amendment.


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Respectfully submitted,

Date: 5/18/10



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